



*TRAI Consultation Paper on
"Roadmap to Promote Broadband Connectivity and Enhanced Broadband Speed"
Comments by Tata Teleservices Limited & Tata Teleservices (Maharashtra) Limited*

At the outset, Tata Teleservices Limited and Tata Teleservices (Maharashtra) Limited [together called "TTL"] express our sincere gratitude to Telecom Regulatory Authority of India (TRAI) for releasing the Consultation Paper on "Roadmap to Promote Broadband Connectivity and Enhanced Broadband Speed" and calling for stake holders comments.

Our submission to the question-wise response is as follows:

Q.1: Should the existing definition of broadband be reviewed? If yes, then what should be the alternate approach to define broadband? Should the definition of broadband be:
a. Common or separate for fixed and mobile broadband?

TTL Response:

Yes, existing wired broadband needs to be reviewed particularly with the speed on Copper/Fibre. The definition of broadband today in India is minimum Upload/Download speed at 512Kbps. It should be separate as mobile broadband have its own limitations as compared to wireline broadband.

A separate identification by TRAI for Wireless Broadband & Wired broadband is a must also the SLA for a 100Mbps/1Gps should be separate. (ie the throttle speed for 1Gbps cannot be 512Kbps or a minimum of 15/20 Mbps). Keeping newer requirements like online education, telemedicine, live steaming etc. require some aggressive targets in terms of broadband speed so that it can technology bring resources near to mass population and overall growth.

b. Dependent or independent of speed and/or technology?

TTL Response:

It has to be dependent of the speed which any TSP sells or communicate on the broadband to customers & also it needs to be linked to the technology

c. Based on download as well as upload threshold speed, or threshold download speed alone is sufficient?

TTL Response:



Both upload and download to be considered keeping work from home conditions, online education etc.

d. Based on actual speed delivered, or on capability of the underlying medium and technology to deliver the defined threshold speed, as is being done presently?

TTL Response:

Keeping good customer experience or SLA based offerings, it is suggested that speed should be the criteria based on customer requirements keeping underlying technology limitation.

Please suggest the complete text for revised definition of the broadband along with the threshold download and upload speeds, if required for defining broadband. Kindly provide the reasons and justifications for the same.

TTL Response:

For copper connected Sites- Speed to throttle to 512Kbps/1 Mbps.

For any fiber connected building – speed to throttle to minimum of 5 Mbps.

For any 1 Gbps plan- Speed to throttle to a minimum of 10 Mbps.

Q.2: If you believe that the existing definition of broadband should not be reviewed, then also justify your comments.

TTL Response:

Based on current environment where work from home is norm therefore broadband speed need to be reviewed so that we are able to meet customer experience. It is worth to note that it is not only customer experience, but it is equally important for economy of country. Progressive increase in broadband speed should be the target.

Q.3: Depending on the speed, is there a need to define different categories of broadband? If yes, then kindly suggest the categories along with the reasons and justifications for the same. If no, then also justify your comments.



TTL Response:

As mentioned yes, Many TSP's have come with flavor of broadband plans- Home/ Binge plans/ SME/ 1Gbps plan. Hence with the current offerings from across TSPs- Definition of broadband needs to be basis the SLA and different segment broadband requirements For example, below broadband categories are given to end customers.

Bandwidth Speed
<512Kbps
Upto 1Mbps
Upto 2 Mbps
Upto 5Mbps
Upto 10Mbps
Upto 16Mbps
Upto 40 Mbps
>40Mbps

Q.4: Is there a need to introduce the speed measurement program in the country? If yes, please elaborate the methodology to be implemented for measuring the speed of a customer's broadband connection. Please reply with respect to fixed line and mobile broadband separately.

TTL Response:

Interestingly, while the official definition of broadband in India is set at any connection that offers at least 512 kbps downstream and upstream, a recent study by Akamai indicates an average connection speed of 5.6 Mbps for the nation

Studies indicate that video already accounts for over 60% of the total global internet traffic, and this share is expected to increase to 80% by 2021. For India, with lower literacy levels in rural parts, the need and the expected impact of video communication would be significantly higher than in more developed economies.



With the current pandemic & lockdown from last 5 months - Many Govt. schools sent out recorded video of teachers teaching them Maths/Science classes –via video for Students who are not in metro cities and are in Tier 2/Tier 3 cities- for online class revisions.

Q.5: Whether the Indian Telegraph Right of Way (RoW) Rules 2016 have enabled grant of RoW permissions in time at reasonable prices in a non-discriminatory manner? If not, then please suggest further changes required in the Rules to make them more effective.

TTL Response:

All States follow different practices as far as ROW rules are concerned. For example, in Maharashtra DIT was setup to provide permissions for ROW. However, Operators still have to apply to various Local Municipal Corporations separately for ROW permissions along with DIT clearance.

Further, ROW Rules 2016, specifies timeline of upto 60 days for granting the ROW related permission. In view of the dynamic telecom business environment and customer requirement, time should be reduced so that faster broadband penetration can be achieved. Typically, time should be reduced to 15 days from the date of application.

Some States are imposing one-time land leased charges along with ROW restoration charges which should be eliminated. ROW permissions are not given in Metro City since April 2020. ROW permissions are not given timely in time. In areas where the metro Railway is passing underground local authorizes are not giving the ROW permissions. All States should follow a uniform policy as per the Central guidelines.

Below table gives a glimpse of state level practice which is followed on ROW. Draft suggestion can be discussed in larger forum so that we achieve a better place in providing broadband penetration/speed.

State/Metro	Current ROW practice	Proposed ROW practice
1	1) DIT clearance required in addition to application to Corporation application 2) ROW cost is high	1) DIT application should be removed 2) ROW cost should be reduced
2	1) One time land leased charges levied along with ROW restoration charges a. GHMC Area: Charging 10% of prevailing market land cost b. Outer ring road authority- 16% prevailing market land cost for 20 years period in Advance.	1). One time land leased charges should be abolished. 2) ROW-UG should be allowed in areas of CRMP (Comprehensive Road maintenance programme)



	2) ROW Permission-UG not allowed in areas of CRMP (Comprehensive Road maintenance Programme-All Hyderabad Major Roads approximately 700kms covered under CRMP)	
3	1) ROW permission not granted in areas of underground Metro areas	1) ROW permission should be granted in areas of underground Metro areas
	2) ROW permission not granted in areas of SMART City project.	2) ROW permission should be granted in areas of SMART City project.
	3) ROW permission not granted in areas of white top ie., Concrete road within City Corporation limit/Municipality.	3) ROW permission should be granted in areas of white top ie., Concrete road within City Corporation limit/Municipality.
	4) ROW permission not granted in areas of Major road crossing within City Corporation limit/SH/NHAI	4) ROW permission should be granted in areas of Major road crossing within City Corporation limit/SH/NHAI
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	2) ROW permission not granted in areas of white top ie., Concrete road within City Corporation limit/Municipality.	2) ROW permission should be granted in areas of white top ie., Concrete road within City Corporation limit/Municipality.
5	1) ROW permission not granted in areas of underground Metro areas	1) ROW permission should be granted in areas of underground Metro areas
	2) ROW permission not granted in areas of SMART City project.	2) ROW permission should be granted in areas of SMART City project.
	3) ROW permission not granted in areas of white top ie., Concrete road within City Corporation limit/Municipality.	3) ROW permission should be granted in areas of white top ie., Concrete road within City Corporation limit/Municipality.
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7	1) ROW permission not granted in areas of SMART City project.	1) ROW permission should be granted in areas of SMART City project.
	2) ROW permission not granted in areas of Major road crossing within City Corporation limit/SH/NHAI	2) ROW permission should be granted in areas of Major road crossing within City Corporation limit/SH/NHAI
8	1) Yearly lease charges levied along with ROW restoration charges 2) By default, Man hole charges are included by incorporating Chamber at every 100M	1) Row permission should be granted on bank Guarantee basis



		2) Manhole charges should be levied on actual need of manhole.
9	1) Time taken to grant permission is too high 2) Very high charges towards supervision charges @ Rs. 2 Lac per crossing	1) Permission time should not exceed 30 days 2) Supervision charges per crossing should be nominal @ Rs. 10,000 per crossing
10	1) ROW Permission granting time line are high	1) ROW Permission sanction to be limit to 30 days maximum
11	1) DIT clearance required in addition to application to Corporation application	1) DIT application should be removed
12	1) ROW permissions from GAIL, Bangalore Water Supply Department, BBMP take time. 2) New Concrete and Asphalt roads permissions take 2-3 years and 1-2 years respectively	1) Permission time should not exceed 30 days 2) Permission time should not exceed 30 days

Q.6: Is there any alternate way to address the issues relating to RoW? If yes, kindly elucidate.

TTL Response:

In view of the Central Government vision of Digital India, ROW restoration charges should be minimized so that Operators can further expand their reach and connectivity even to the remotest locations across the country.

To provide the speed at lower cost, ROW cost in the cities should be reduced. ROW permissions to be given after considering the joint requirement of all the Operators. Major States never follow the Smart City guidelines.

Major States post implementation of Smart City do not support the existing OSP work executed by the Operators in last 15 years. Support for restoration of services is also not granted in these cases. E.g. In spite of Track rent paid regularly to local Corporation, permission is not granted to lay new cables nor Corporation allots the duct for cable laying.

Q.7: Whether all the appropriate authorities, as defined under the Rules, have reviewed their own procedures and align them with the Rules? If no, then kindly provide the details of such appropriate authorities.

TTL Response:

There is no binding on states to follow the Smart City guidelines.



Major States post implementation of Smart City do not support the existing OSP work executed by the Operators in last 15 years. Support for restoration of services is also not granted in these cases. To give an example, Despite of Track rent paid regularly to local Corporation, permission is not granted to lay new cables nor Corporation allots the duct for cable laying.

In some states DIT was setup to provide permissions for ROW. However Operators still have to apply to various Local Municipal Corporations separately for ROW permissions.

Q.8: Whether the RoW disputes under the Rules are getting resolved objectively and in a timebound manner? If not, then kindly suggest further changes required in the Rules to make them more effective.

TTL Response:

No. The time taken varies from state to state depending on the nature of dispute. The time limit of sixty days set by ROW rules should be reduced to not exceeding 30 days from the receipt of the complaints. Secondly the list of designated officers should be uploaded on the website of DoT so that as service providers we know whom to approach in case of dispute.

Please refer response to question no. 5 above which covers the state wise ROW norms followed with few pointers on current issues

Q.9: What could be the most appropriate collaborative institutional mechanism between Centre, States, and Local Bodies for common Rights of Way, standardization of costs and timelines, and removal of barriers to approvals? Justify your comments with reasoning.

TTL Response:

Every State should have single body / authority for ROW permissions so that permission clearance and execution time is reduced to achieve the vision of Government's Digital India.

Pre information on digging of any area can be given to all interested parties transparently so that any interested party can also plan to lay fiber in same duct as per commercial arrangements.

ROW cost for different type of street surface should be the same across all States.



Q.10: Should this be a standing coordination-committee at Licensed Service Area (LSA) level to address the common issues relating to RoW permissions? If yes, then what should be the composition and terms of reference of this committee? Justify your comments with reasons.

TTL Response:

Yes. As suggested above, such committee will help for faster rollout of telecom infra. As far as scope is concerned all cases which are disputed or delayed can be discussed with target timelines.

Each State should develop the GIS data platform comprising of roads, buildings, underground utilities to build the infrastructure so that work can be done jointly and cost can be shared.

Q.11: Is there a need to develop common ducts along the roads and streets for laying OFC? If yes, then justify your comments.

TTL Response:

Yes, definitely needs a common duct along the roads /street for laying OFC. In April 2019- some state cities were plunged to digital darkness- due to cutting of OFC cables/ Metro projects – leading to service disruption and disconnection by many customers. If an agency is deployed to maintain/ service and ensure no trespassing & damages occur on OFC line- this will certainly be an added advantage for WLN Broadband.

Q.12: How the development of common ducts infrastructure by private sector entities for laying OFC can be encouraged? Justify your comments with reasoning.

TTL Response:

Common duct is based on commercial viability. Promoting such infra readiness should be linked with incentives to encourage private entities participation.

Q.13: Is there a need to specify particular model for development of common ducts infrastructure or it should be left to the land-owning agencies? Should exclusive rights for the construction of common ducts be considered? Justify your comments with reasoning.

TTL Response:



For a long-term solution, land owning agency should plan to create common ducts on chargeable basis at a justified price so that no monopoly is encouraged. All such cases should be in control of local DOT office so that it can be handled appropriately. In case, issue is not sorted at local level National level committee can look for such cases till process gets stream lined.

Q.14: How to ensure that while compensating the land-owning agencies optimally for RoW permissions, the duct implementing agency does not take advantage of the exclusivity? Justify your comments with reasoning

TTL Response:

For duct implementing agency, it is commercial model. Agency may not be able to appreciate the larger goal of increasing broadband penetration therefore land-owning agency should be responsible to take control of sharing infra.

Q.15: What could be the cross-sector infrastructure development and sharing possibilities in India? Justify your comments with examples.

TTL Response:

As mentioned in the consultation paper, a portal should make available where interested parties are able to see the area on interest for working together to save cost and time. At the same time, departments which are able to plan such rollout in timely manner need to be encouraged if the ROI is positive.

Common GIS platform for common entities, common utilities and infrastructure shared by all.

Q.16: Whether voluntary joint trenching or coordinated trenching is feasible in India? If yes, is any policy or regulatory support required for reaping the benefits of voluntary joint trenching and coordinated trenching? Please provide the complete details.

TTL Response:

Yes. Coordinated trenching is very much possible in India. There are many instances where a road is dug multiple times just because two departments were not in sync/aware on the area which was planned for trenching work. Voluntary trenching is currently also available between interested parties but it has not resulted in wider benefit except for involved entities.



Q.17: Is it advisable to lay ducts for OFC networks from coordination, commercial agreement, and maintenance point of view along with any other utility networks being constructed?

TTL Response:

It is always advisable to lay ducts while creating any utility network, else it will involve bad esthetic look, multiple digging, additional cost, delay in rollout etc.

Q.18: What kind of policy or regulatory support is required to facilitate cross-sector infrastructure sharing? If yes, kindly provide the necessary details.

TTL Response:

Dig once policy should be mandated through suitable legislative/ regulatory notification and obligatory on the both the entity- Permission giving authority and the organization seeking permission to inform others to join. Empirical evidence suggests that cross-sector infrastructure sharing lower deployment costs, and increase market entry, thereby, making markets more competitive.

Q.19: In what other ways the existing assets of the broadcasting and power sector could be leveraged to improve connectivity, affordability, and sustainability.

TTL Response:

The existing assets of Broadcasting sector like microwave repeaters/ antennas and Power sector assets of towers for carrying the OFC cables will reduce the cost, faster deployment and easy accessibility to remote and uncovered areas.

Q.20: For efficient market operations, is there a need of e-marketplace supported by GIS platform for sharing, leasing, and trading of Duct space, Dark Fibre, and Mobile Towers? If yes, then who should establish, operate, and maintain the same? Also, provide the details of suitable business model for establishment, operations, and maintenance of the same. If no, then provide the alternate solution for making passive infrastructure market efficient.

TTL Response:

It is suggested that of above-mentioned steps are taken then it should improve the broadband penetration at faster pace. GIS based collaboration can be considered for future use.



Q.21: Even though mobile broadband services are easily available and accessible, what could be the probable reasons that approximately 40% of total mobile subscribers do not access data services? Kindly suggest the policy and regulatory measures, which could facilitate increase in mobile broadband penetration.

TTL Response:

Low cost of data service, handset supporting high data rates, use case for mass segment may not be leading to high data usage.

Q.22: Even though fixed broadband services are more reliable and capable of delivering higher speeds, why its subscription rate is so poor in India?

TTL Response:

Though fixed broadband services are reliable and capable of delivering higher speeds- the penetration of subscription rate in India is poor due to following reasons:

- Feasibility
- OFC cable/ROW cost- differs from city to city and if an X player is already in one Area- the Y player finds it difficult to enter.
- Society permission / Rentals also plays an important factor to put up set up like MUX etc.

Q.23: What could be the factors attributable to the slower growth of FTTH subscribers in India? What policy measures should be taken to improve availability and affordability of fixed broadband services? Justify your comments.

TTL Response:

Penetration of FTTH was low due to various factor as to convert existing copper to fiber – cost implication were too high. FTTH will certainly see a growth story in the coming years.

We will see an exponential growth in content /video streaming from 2021 to almost 80% + Smart TV penetration in India has grown YOY 25% - with Malls/ Cinema houses shut. People have opted for video streaming apps like PrimeVideo/Netflix/Hotstar etc.

(Source-Countpoint TV tracker- Approx. 15 Million shipment of Smart TV were done in 2019)



Q.24: What is holding back Local Cable Operators (LCOs) from providing broadband services? Please suggest the policy and regulatory measures that could facilitate use of existing HFC networks for delivery of fixed broadband services.

TTL Response:

Even though few LCO are coming forward in giving broadband service due to work from home requirements, but lack of technical know-how, additional Opex for manpower, infra etc., it is taking time for LCO to take proactive steps in providing broadband. Apart from that low cost of broadband, and market competition are the main factors which is detrimental to LCO for rolling out broadband service.

Q.25: When many developing countries are using FWA technology for provisioning of fixed broadband, why this technology has not become popular in India? Please suggest the policy and regulatory measures that could facilitate the use of FWA technology for delivery of fixed broadband services in India.

TTL Response:

Lack of access devices, and customer demand are the driving factor for less popularity. Further these devices are additional cost to end consumers. Apart from that mobile broadband have its own limitations. As a general practice wired broadband is more popular because of less latency and consistent speed in home environment.

Q.26: What could be the probable reasons for slower fixed broadband speeds, which largely depend upon the core networks only? Is it due to the core network design and capacity? Please provide the complete details.

TTL Response:

It is demand vs supply. Network are upgraded based on capacity requirements therefore it is not fully justified for all cases where low fixed broadband speed are observed.

Q.27: Is there a need of any policy or regulatory intervention by way of mandating certain checks relating to contention ratio, latency, and bandwidth utilization in the core network? If yes, please suggest the details. If no, then specify the reasons and other ways to increase the performance of the core networks.

TTL Response:

No. The core networks are designed by service providers taking into account available OFC, bandwidth, the target customer segment and future demands. So mandating any



check relating to contention ratio, latency and bandwidth utilization in the core network will be inappropriate. Let the market forces decide.

Q.28: Should it be mandated for TSPs and ISPs to declare, actual contention ratio, latency, and bandwidth utilization achieved in their core networks during the previous month, while to their customers while communicating with them or offering tariff plans? If no, state the reasons.

TTL Response:

As far as customer is able to get the desired speed as per his requirement, it is immaterial because these are dynamic. Performance KPI help to monitor and upgrade networks as an when required.

Q.29: What could be the probable reasons for slower mobile broadband speeds in India, especially when the underlying technology and equipment being used for mobile networks are similar across the world? Is it due to the RAN design and capacity? Please provide the complete details

TTL Response:

TTL do not operate in wireless category therefore it is appropriate for mobile service providers to share their views.

Q.30: Is there a need of any policy or regulatory intervention by way of mandating certain checks relating to RAN user plane congestion? What should be such checks? If yes, then suggest the details, including the parameters and their values. If no, then specify the reasons and other ways to increase performance of RANs.

TTL Response:

TTL do not operate in wireless category therefore it is appropriate for mobile service providers to share their views.

Q.31: Should it be mandated to TSPs to declare actual congestion, average across the LSA, recorded during the previous month over the air interface (e.g., LTE Uu), in the radio nodes (e.g., eNB) and/or over the backhaul interfaces between RAN and CN (e.g., S1-u), while reaching out to or enrolling a new customer? If so, then suggest some parameters which can objectively determine such congestions. If no, then specify the reasons and other ways to increase performance of the RAN.



TTL Response:

TTL do not operate in wireless category therefore it is appropriate for mobile service providers to share their views.

Q.32: Is there a need of any policy or regulatory intervention by way of mandating certain checks relating to consumer devices? If yes, then please suggest such checks. If no, then please state the reasons.

TTL Response:

Yes. Only type approved products from TEC should be allowed to be sold in the market. Currently market is flooded with spurious products creating problems for the customer as well as threat to the nation.

Q.33: To improve the consumer experience, should minimum standards for consumer devices available in the open market be specified? Will any such policy or regulatory intervention have potential of affecting affordability or accessibility or both for consumers? Please justify your comments.

TTL Response:

For new devices it can be mandated but replacement of existing devices should be left to the customer discretion.